

REMARKS

The specification and claims have been amended to remove the term "target".

The prior art patents cited by the Examiner namely, 5,433,853 (Mamone) and 4,026,794 (Mauceri) have been deleted from the BACKGROUND ART SECTION.

Claims 1 and 7 have been amended, claims 2, 3, 4 remain as previously submitted in the prior Office Action.

Claim 11 has been canceled and claims 5, 6, 8, 9, 10, 12 and 13 were previously canceled in the prior Office Action.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 "the target components" lack clear antecedent basis.

Claim 1 has been amended by removing the term "target".

Claims 1-4, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamone 5,433,853 in view of Mauceri 4,026,794.

Claim 11 has been canceled and claims 1-4 and 7 are respectfully traversed.

The following argument presented in the prior Office Action is deemed appropriate in view of the amendments and the cancellation of claim 11.

The Mamone patent discloses a process for removing emulsified oils, dissolved solids and particulates from a water containing a liquid waste stream. The waste stream is derived from food processing, plating, chemical manufacturing, petroleum production or petroleum refining. The Mamone process is used for the removal of oil and other solid and particulates from water resulting from an industrial waste stream.

Emulsion in general consists of a mixture of two liquids, such as oil and water. The oil disclosed in Mamone can be easily separated from the liquid waste stream by breaking the emulsion. It is common knowledge that oil and water will separate because they consist of two different phases that do not normally mix. The solids and particulates dissolved in the water can also be easily separated utilizing various precipitation techniques.

The applicant has indicated throughout the application and specifically in amended claim 1 and previously amended claim 2 that the emulsion claimed in the application is comprised of positively or negatively charged colloids in pharmaceutical drug products. To further differentiate the applicants claimed emulsion, it is disclosed in the specification that the applicants claimed emulsion is comprised (as amended in claim 1) of components that are wrapped within the emulsion. It is critical in the process disclosed by the applicant, to keep the wrapped

components within the emulsion by limiting the emulsion from breaking up. A disadvantage of breaking up an emulsion is that some relatively high water soluble compounds, which were originally in the oil particles, may be re-distributed to the water phase resulting in an incomplete treatment that will cause the treated waste water to exceed the pre-imposed discharge limit.

The emulsified oil disclosed in Mamone is clearly different than the oil in water emulsion or colloids specified in the applicant's claims. Mamone is not concerned in emulsion breakage because their purpose is to separate the oil from the water phase, whereas in the applicant's process, emulsion breakage must be controlled because it is critical to keep the components in the oil particles within the emulsion for a successful process and to achieve treated water within the discharge limit.

Mauceri discloses a method of separating floc produced by trivalent cations from an oily waste water utilizing gravity separation as well as centrifugation and filtration, to remove precipitation. However, the similarity stops there. Again, it should be emphasized that the applicant claims a process for removing oil-in-water emulsion and the wrapped components within the emulsion by limiting emulsion breakage. Thus, keeping the components originally wrapped in the emulsion from entering the water phase, the importance of which is mentioned throughout the application. The floc produced by trivalent cations from an oily waste water, as disclosed in Mauceri, is obtained by utilizing an emulsion breakage as specifically stated in the Mauceri abstract. This is exactly the opposite from the process claimed by the applicant. In fact, the process as claimed by the applicant would not allow

the treated water to meet disposal limits if emulsion breakage cannot be limited.

In regard to applicant's previously amended claim 4, Mauceri disclose the use of aluminum sulfate to remove oil from the waste water. The applicant's claim 4 utilizes potassium aluminum sulfate, which is a different substance than the one recited in Mauceri. However, the importance of which does not rely on the type of compound utilized to remove oil nor does the importance lie on the means for separating the precipitate. The important factor that distinguishes the applicant's process, as compared to Mamone and Mauceri is that the applicant's process needs to be controlled in order to minimize the amount of wrapped components from being released into the water phase, whereas the process claimed by Mamone and Mauceri breaks up the emulsion in order to separate the oil from the water phase.

In regard to claim 7 Gaughan discloses that it is known in the art to utilize specific base compounds including sodium carbonate, sodium hydroxide and ammonia as an alkaline material, to aid in precipitating metal ions in waste water. This is similar to the ground of rejection in view of Mauceri in regard to claim 4 as discussed above. The use of a base compound to aid precipitation is not new in the art. Any base compound can be utilized for such process as mentioned in the application. However, the applicant in claim 7, states that the base compound is sodium bicarbonate, (which is preferred) and which is a different substance than sodium carbonate referred to in Gaughan. The critical point in the applicant process lies in the step of adding the base compound to produce precipitate. This step needs to be controlled and

performed carefully because the emulsion can easily break up during this stage. It is important to note that it is necessary in the applicant process for removing emulsions and the components wrapped within the emulsions to limit emulsion breakage in order to obtain a successful water treatment that will meet the discharge limit.

The object of the process disclosed by Mamone and Mauceri is to remove various contaminants from industrial wastewater and any oil dispersed therein. Emulsion breakage is not of concern simply because there are no components within the emulsion recited in the reference teachings that are going to be released into the water phase. In fact, Mauceri specifically uses cationic terpolymer as an emulsion breaker in their process to separate the oil phase from the water phase. Mamone also utilizes a similar compound of cationic polymer in their process. Even though Gaughan utilizes a different compound, the objective is similar to the Mamone and Mauceri inventions. The applicant deems that it is not obvious for one to modify the process of Mamone and Mauceri simply because the process claimed by the applicant is different in a critical aspect that emulsion breakage is not an option.

Furthermore there can be no prima facie case of obviousness merely because there is no suggestion in the references or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings to utilize the applicant's process. The Mamone and Mauceri disclosure do not suggest or mention any type of concern regarding emulsion breakage nor any effort to limit them.

In summary, the emulsified oil and the process disclosed in the instant application and in the reference teachings are deemed to differ. The process for removing emulsions and the wrapped components from wastewater as claimed by the applicant would not be successful if performed through any of the referenced teaching.

In view of the above amendments and arguments it is deemed that the Examiner's rejection have been overcome. Therefore the applicant respectfully requests the allowance of claims 1, 2, 3, 4 and 7 at an early date.

No fee is deemed necessary at this time.

Respectfully submitted,



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